Focused Site Inspection Prioritization Report

for the

Kankakee Airport

USEPA ID No. ILD 980 993 588

August 30, 1995

Prepared for
U.S. Environmental Protection Agency
Contract 68-W8-0064
Work Assignment 32-5JZZ

For U.S. Environmental Protection Agency, Region V

Approved by: Alan Altshuler Date: 9/13/95

For Illinois Environmental Protection Agency

Approved by: _____ Date: _____

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1.0 Introduction

On December 13, 1994, the Alternative Remedial Contracting Strategy (ARCS) V contractor, was authorized, by approval of the work plan amendment by the U.S. Environmental Protection Agency (USEPA) Region V, to conduct a focused site inspection prioritization (FSIP) of several sites in Illinois.

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) established a federal program for responding to the risks posed by uncontrolled releases of hazardous substances. CERCLA required the federal government to establish criteria for setting priorities among releases or threatened releases and specified these criteria be used to establish the National Priorities List. USEPA responded to these mandates by developing the Hazard Ranking System (HRS) to more accurately quantify the relative risk posed by hazardous waste substance releases. A revised HRS was published in December 1990.

The objective of the FSIP is to review the outstanding screening site inspections (SSIs) performed before the implementation of the revised HRS for which a final decision regarding further action has not been made. The FSIP will determine whether the existing SSI information meets a minimum standard to reflect the revised HRS, and, if not, collect additional information by file review, reconnaissance and sampling on an as-needed basis. The FSIP will evaluate threats posed to human health and the environment and provide sufficient documentation for USEPA to decide the appropriate future course of action (no further remedial action planned [NFRAP], further evaluation, or preparation of an HRS package).

2.0 Site Background

2.1 Site History

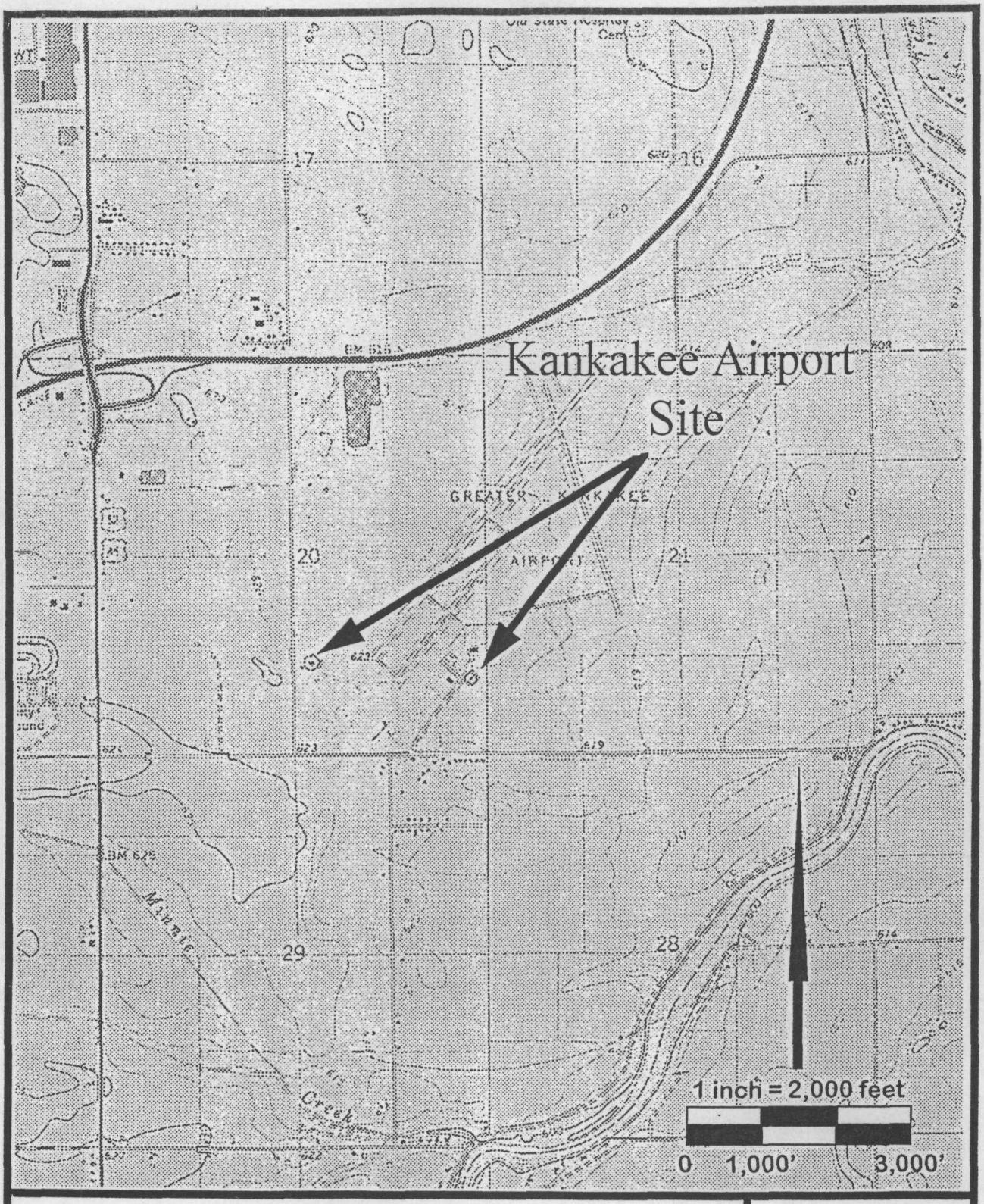
The Kankakee Airport has been active since the 1940s. The airport is owned by the City of Kankakee and is operated by the Kankakee Valley Regional Airport Authority. The airport lies in an area of relatively flat farm land between the Iroquois and Kankakee Rivers, approximately 3 miles south of the City of Kankakee. During the early and mid-1980s, the Illinois Environmental Protection Agency (IEPA) conducted investigations concerning the waste handling procedures of three crop dusting businesses that operated from the airport. File information indicates that pesticide and solvent contamination were found in the soil in two separate areas of the airport. Area 1 is adjacent to the runways, near the hangars. Area 2 is on the western edge of the airport. Figure 1 is a site location map. Figure 2 is a site layout map that shows the two areas. Additional figures showing well locations and sampling points are included in Appendix A.

IEPA investigated the site following citizen complaints in 1982 and 1984. As a result, the site was listed in the Comprehensive Environmental Response, Compensation, and Liability Information System on October 17, 1986. On August 11, 1986, USEPA Field Investigation Team (FIT) personnel conducted a preliminary assessment (PA) at Kankakee Airport. On March 17, 1987, FIT conducted an SSI at Kankakee Airport.

In 1982, three crop dusting firms were operating from Kankakee Airport: Rusk Crop Spraying, Russell Aviation, and Benoit Crop Spraying. Rusk, the oldest of the three firms, had operated since 1962. Before 1975, Rusk operated from Area 1, which is adjacent to the runway. The project file contains anecdotal evidence that an underground storage tank was used to collect wash water from the pesticide tanks. This underground storage tank was also reportedly a fuel oil tank. The file indicates that an unsuccessful attempt was made to remove the tank in 1975. At that time, oily sludge was observed in the tank and bullet holes were put in the tank before it was re-buried. Hangars were constructed over the reported location of this tank, and the surrounding area was paved.

Another underground storage tank is located directly north of the first tank, adjacent to the shop that Rusk used for maintenance (see Figure 2 in Appendix A). It was installed in 1961 to store fuel oil. At the time of the SSI, however, it was being used as a catch basin for waste solvent from the cleaning of engine parts.

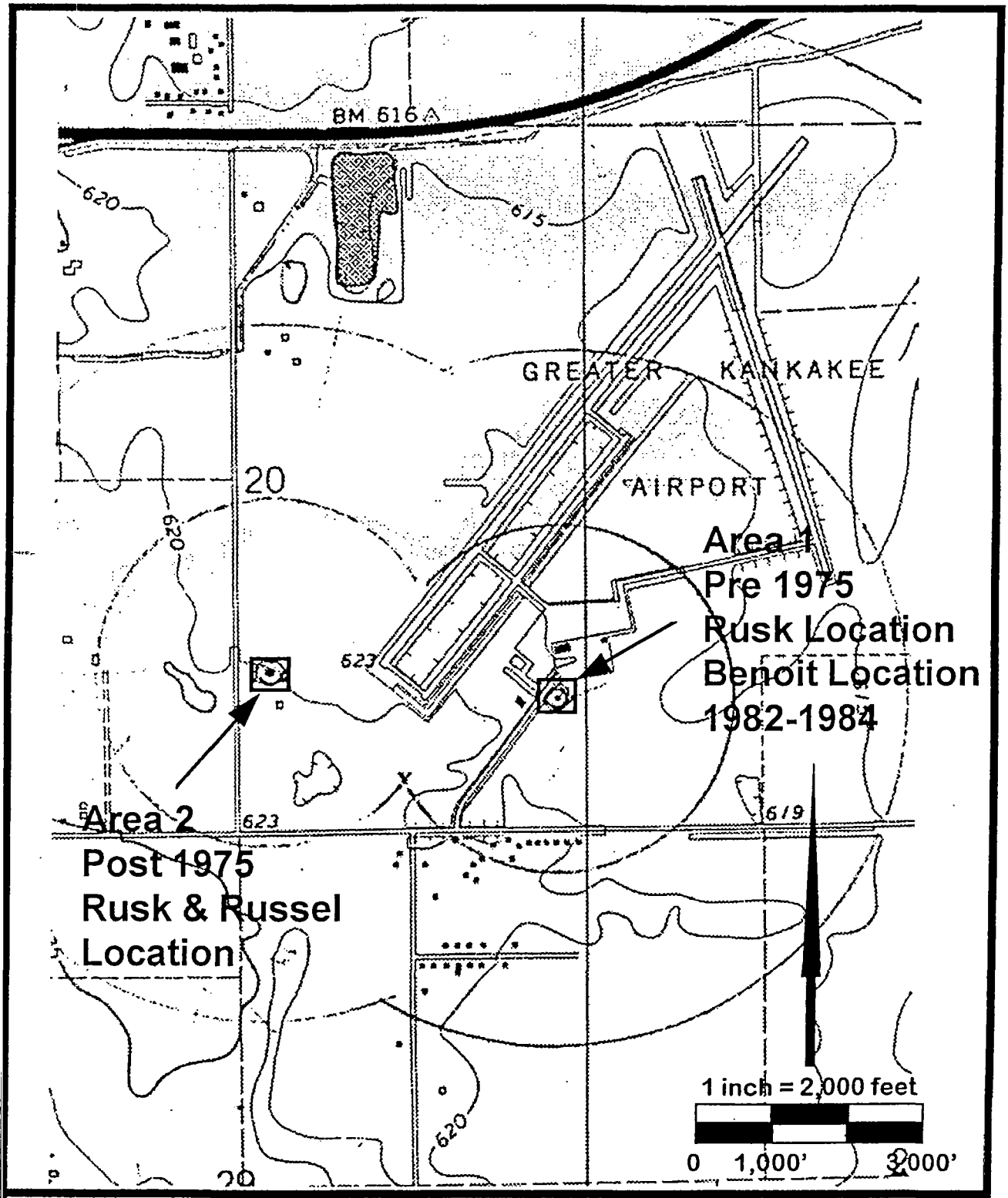
After 1975, Rusk relocated pesticide handling operations to Area 2, a rented parcel of land on the western boundary of the airport (see Figure 3 in Appendix A). Pesticide loading/unloading and the rinsing the pesticide tanks was done on a paved area. The



Site Location Map
Focused Site Inspection Prioritization
Kankakee Airport
Kankakee County, Illinois

Figure 1

From USGS 7.5 Minute Quadrangle, Kankakee, Illinois



Site Layout Map
Focused Site Inspection Prioritization
Kankakee Airport
Kankakee County, Illinois

Figure 2

From USGS Quadrangle, Kankakee, Illinois

wash water was collected in a third underground tank, which was installed in 1984. The parcel of land contained an old farm house foundation that was reportedly used for the disposal of pesticide waste between 1975 and 1984. A shallow well adjacent to the farm house foundation was used as the water supply for Rusk's operations. Rusk ceased operations on an undetermined date prior to the 1995 FSIP.

Russell Aviation has operated from Area 2, which is adjacent to the Rusk plot on the western edge of the airport, since 1979. Russell conducted operations on a pad, but did not have underground collection/storage tanks for their wash water. A shallow well supplies water for Russell. Russell is still in operation.

Benoit operated at the site from 1980 to 1984. Benoit did not have separate operations facilities, but operated from airport hangars near Area 1. Complaints of runoff from Benoit's operations prompted the first IEPA investigations in 1982. Benoit ceased operations in 1984.

The types and volumes of pesticides used by each of the firms is not included in the files. The PA mentions the use of Malathion®, and the SSI reported that four compounds were detected in soil samples, including trifluralin, atrazine, alachlor, and dacthal.

2.2 Past Site Characterization Studies

Site inspections were conducted by IEPA in May 1984 and January 1985. Soil and groundwater samples were collected in December 1984 and January 1985. The file indicates that nine soil samples were taken in and around the Rusk and Russell operations in Area 2, including the Rusk underground storage tank, the farmhouse foundation, and the Rusk and Russell pesticides handling pads. There was no information on the laboratory methods used. Trifluralin, atrazine, alachlor, dacthal, xylenes, benzenes, naphthalene, and aliphatic hydrocarbons were detected in these samples. Laboratory analysis results of the soil samples are included in Appendix A.

Water samples were also collected from drinking water wells operated by Rusk and Russell in Area 2. Analysis data for the Rusk and Russell wells are not present in the file; however, there are statements that the groundwater was not contaminated. Data from the October 1984 analysis of the airport well is present in the file. These data did not indicate any organic contamination; however, a full scan for all pesticides from the Target Compound List does not appear to have been conducted.

In the August 1986 PA, FIT estimated that a total of 2 acres of soil may have been impacted by the crop dusting operations. This estimate was based upon field observations and upon photographs of pesticide loading operations that were taken in June 1973.

These photographs were not in the file, and it is not known who took the photographs. FIT also indicated that there was potential contamination of groundwater, surface water, and drinking water. FIT estimated that there was no potential for contamination of the air or potential for exposure or injury to workers or residents.

On March 17, 1987, the FIT contractor conducted an SSI at Kankakee Airport. At that time, Rusk and Russell were operating on the western edge of the airport and were handling pesticides as described in the earlier IEPA reports. The file indicates that Rusk and Russell had plans to change their operations to eliminate the discharge of wash water and to recycle the pesticide residuals. The FIT inspectors did not see any evidence that current site activities were a concern, but indicated that past disposal practices may have impacted the groundwater.

In April 1995, the ARCS V contractor contacted the airport manager. The contractor was informed that Rusk is no longer in operation. The three underground storage tanks at the site were filled in place in 1991; the activity was inspected by the Illinois State Fire Marshall and IEPA. Soil samples were taken at that time, but the manager did not know the parameters or the results. The airport still supplies its own water from the onsite well, which is tested regularly in compliance with state drinking water regulations. The manager did not know if pesticides were included in the regular analysis. Russell Aviation still operates from the western side of the airport in Area 2.

The ARCS V contractor reviewed site information as part of an FSIP. File information indicated contamination of site soils, no contamination of site groundwater, and a limited migration potential to the air and surface water.

2.3 Site Reconnaissance/Sampling

Neither a site reconnaissance visit nor sampling were conducted during the FSIP.

3.0 Pathway Evaluation

A review of records obtained by the ARCS V contractor indicates that contaminated soils at the Kankakee Airport are a possible source of contamination. The contractor evaluated four contaminant transport pathways: groundwater, surface water, soil exposure, and air.

3.1 Groundwater Pathway

In the Kankakee Airport area, at least 50 feet of silty clayey glacial till overlies Silurian dolomite bedrock. The dolomite is underlain by the Ordovician Maquoketa shale, which is in turn underlain by the thick Cambrian-Ordovician aquifer system. The Silurian supplies groundwater to wells through fractures and minor dissolution channels. The Cambrian-Ordovician is the main aquifer used in northeastern Illinois.

Many area residents receive water from private or municipal groundwater wells. A review of Illinois State Water Survey database information suggests that all wells are finished in Silurian dolomite. The water table in the till is very high; the water table at the airport during the December 1984 IEPA sampling event was reported to be 1 foot below the ground surface.

Many wells are within 4 miles of the site, including domestic wells, commercial/industrial wells, and wells serving three mobile home parks and one municipality. The nearest drinking water wells are onsite. The airport drinking water well is in Area 1, and the December 1984 IEPA inspection report indicates that other airport tenants have their own supply wells. Two wells are in Area 2: Russell and Rusk each maintained a drinking water well. Water samples were collected from the Rusk and Russell wells during 1984 IEPA investigations; however, analytical data are not present in the file. There are statements that the data do not indicate the groundwater was contaminated. The silty clayey till may act as a confining layer between the surface and the Silurian dolomite aquifer.

Other drinking water wells are within 0.10 mile of the site. These wells provide drinking water for airport employees. An estimated 4,020 people are served by wells within a 4-mile radius of the site.

3.2 Surface Water Pathway

The airport site is relatively flat. Surface water from Area 1 flows overland approximately 1,000 feet east into an intermittent stream that flows approximately 2.2

miles northeast into the Kankakee River. Surface water from Area 2 flows overland approximately 0.7 mile north to an intermittent stream, which empties into a small pond on the south side of Interstate Route 57. The small pond is drained by an intermittent stream, that flows 2.05 miles east to the Kankakee River. The intermittent stream that comprises a part of the overland segment for Area 1 and the intermittent stream that drains the small pond as part of the overland segment for Area 2 join approximately 1,000 feet before flowing into the Kankakee River. Surface water intakes for the City of Kankakee are located on the Kankakee River approximately 3.25 miles downstream from point of entry of the intermittent streams. There is no surface water pathway because the lengths of the intermittent stream segments are greater than 2 miles.

3.3 Soil Exposure Pathway

The location of the pesticides handling areas and the underground storage tank in Area 1 have been paved over or built upon. Area 2 is still active. IEPA took soil samples from Area 2 during the December 1984 inspection. Soil sampling data are summarized in Appendix A. Based upon their site visits, IEPA and FIT estimated the number of employees at the airport to be 32. No residences are onsite and no schools are within 0.25 mile of the site. Approximately 229 people reside within 1 mile of the site.

3.4 Air Pathway

No air contamination has been documented or reported. No air samples have been collected at the site. Approximately 10,053 people live within a 4-mile radius of the site. Sensitive environments within a 4-mile radius include approximately 10 acres of wetlands.

4.0 Summary

The ARCS V contractor conducted a thorough review of available files associated with the Kankakee Airport and concluded that the pesticide handling constituted a possible source of contamination for several migration pathways. Sampling of the onsite wells by IEPA did not reveal any contaminant migration to the groundwater. Site inspections by IEPA and FIT indicated pesticide tank residuals are now recycled and that the underground storage tanks onsite have been removed or filled in place. Based on this information, no reconnaissance was conducted and no samples were collected during the FSIP investigation.

5.0 References

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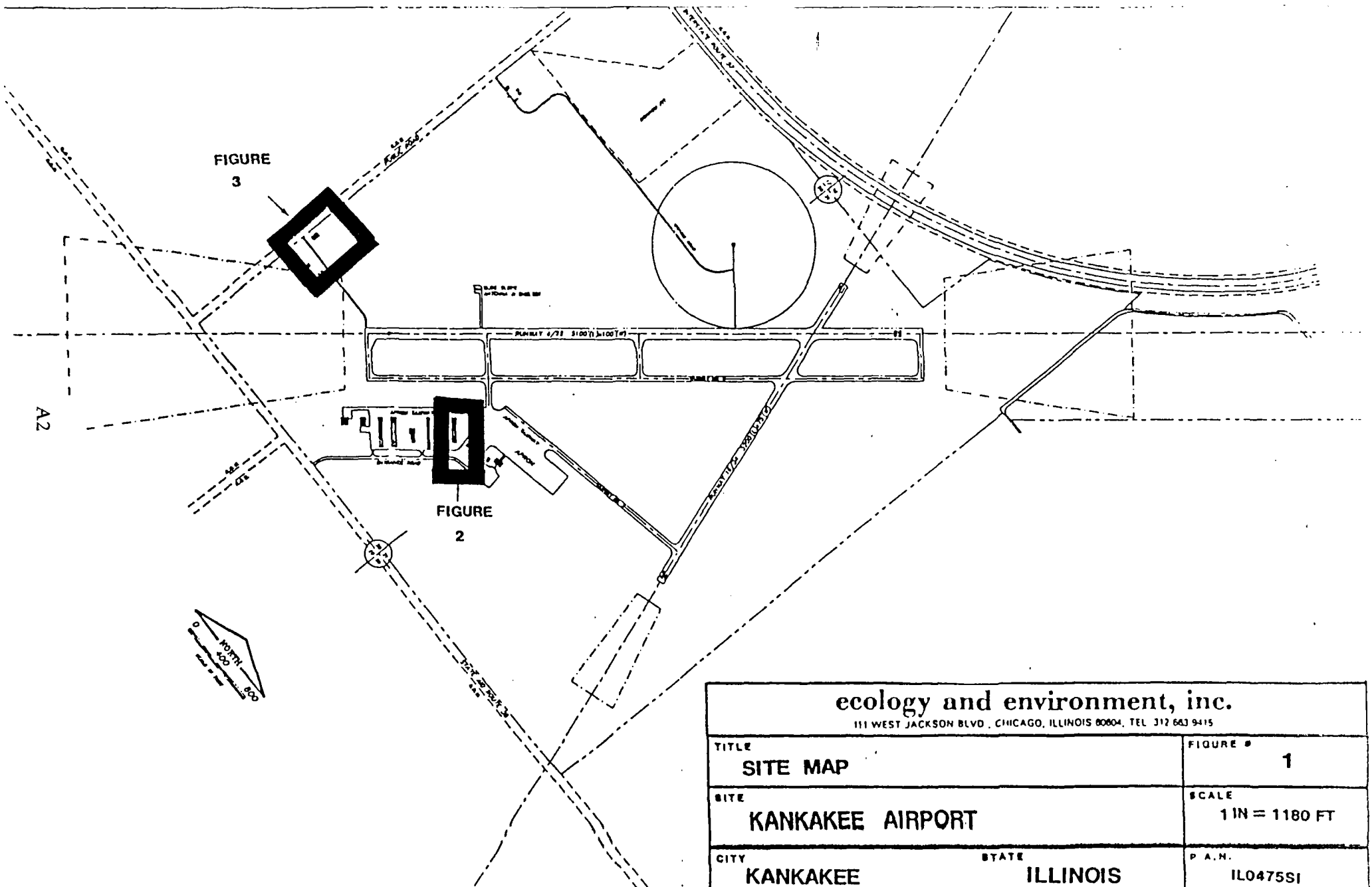
Appendix A
Soil Sampling Data
and Location Maps

Table 1

SOIL SAMPLING DATA (IEPA DATA, 1984)

	Near Tank	Old Farm Foundation	Old Farm Foundation
	Concentration		
	PPB	PPM	PPM
Trifluralin	6,500	2.3	1.4
Atrazine	87,000	90	130
Alachlor	48,000	0.36	0.2
Dacthal	32,000	0.24	-
Aliphatic Hydrocarbons	28,000	2	120
Xylenes	4,200	-	-
Benzenes	1,500	-	-
Naphthalene	270	-	-



ecology and environment, inc.	
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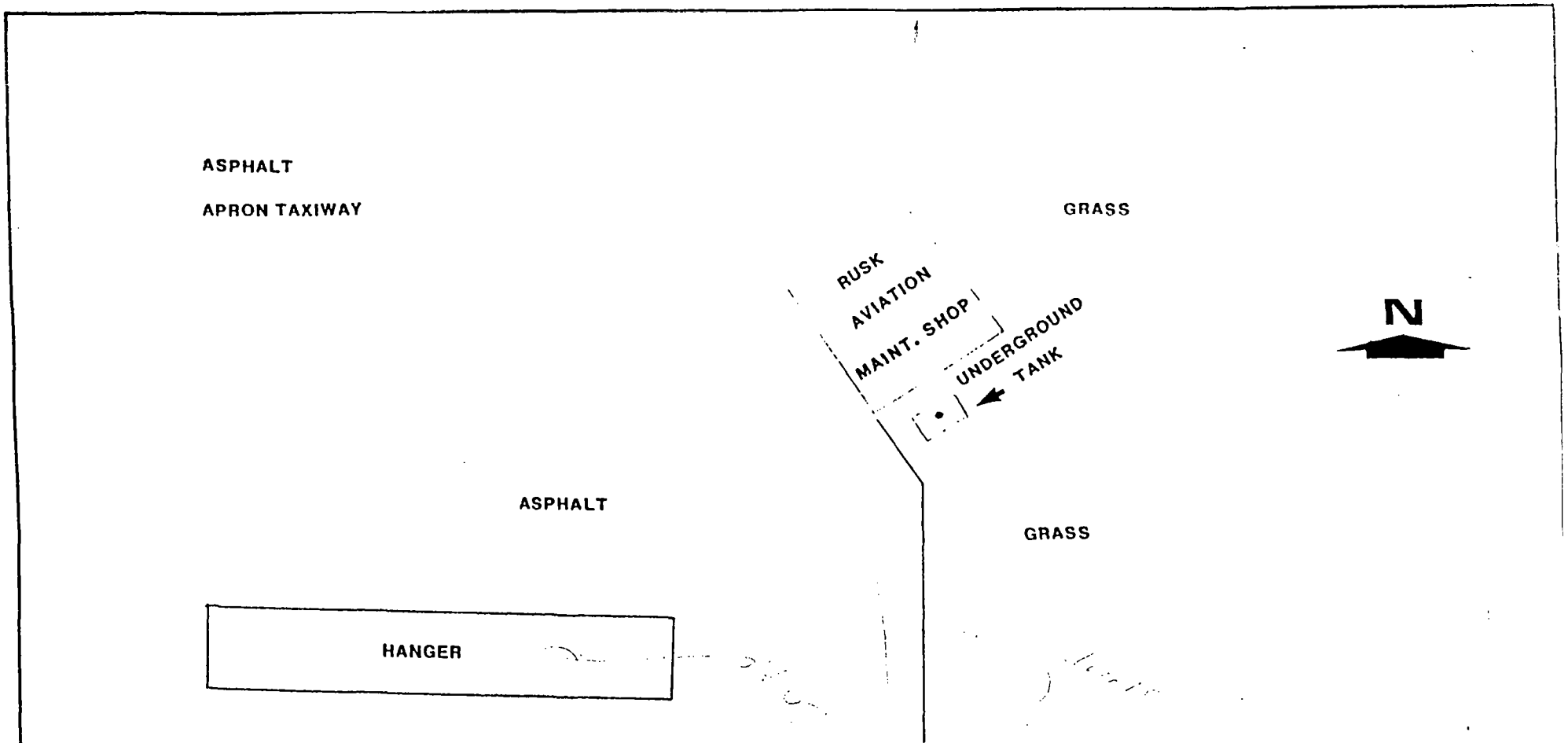

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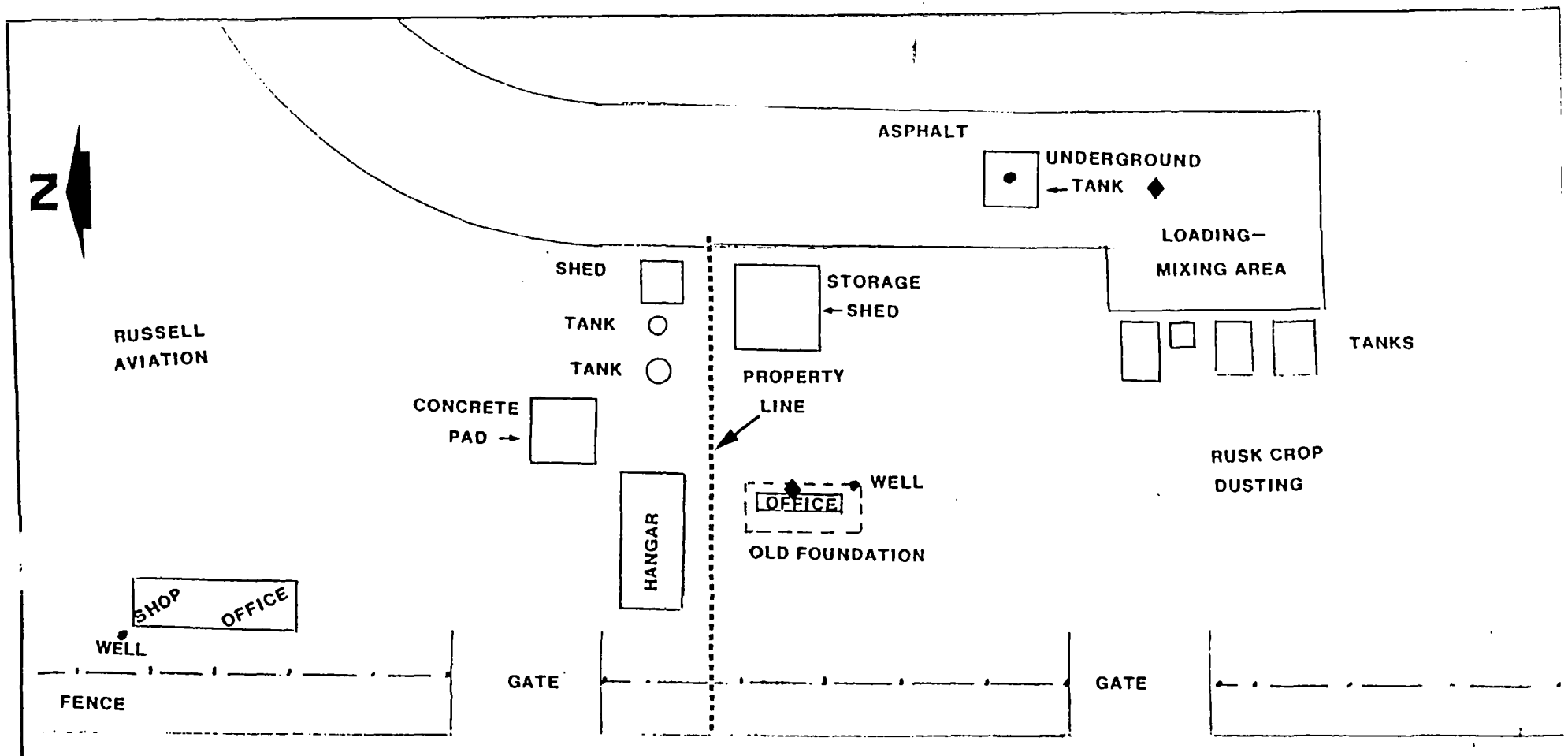

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TITLE: SITE MAP	FIGURE #: 3
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